carbotech
Environmental Projects and Consulting

LCA: Optical lenses from Knecht & Müller

Evaluated by ecological scarcity 2006 and 2013

Event

54 LCA discussion form 2013

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Overview

1. Introduction
2. Results from the LCA 2007
3. Comparing the results ecol. Sc. 2006 - 2013
4. Conclusions

KNECHT MÜLLER
SCHWEIZER BRILLENGLÄSER

Knecht & Müller AG is a modern company with almost 100 years of family tradition producing high quality spectacle lenses.

They also have a long tradition in sustainable business strategy.

KNECHT MÜLLER
SCHWEIZER BRILLENGLÄSER

We do not view sustainability as a luxury which can be attended to in individual areas of our business. Sustainability is a standard of living and an attitude that represents the natural foundation of a company's activities and thought processes.

Peter Müller
President of the Board of Directors

KNECHT MÜLLER
SCHWEIZER BRILLENGLÄSER

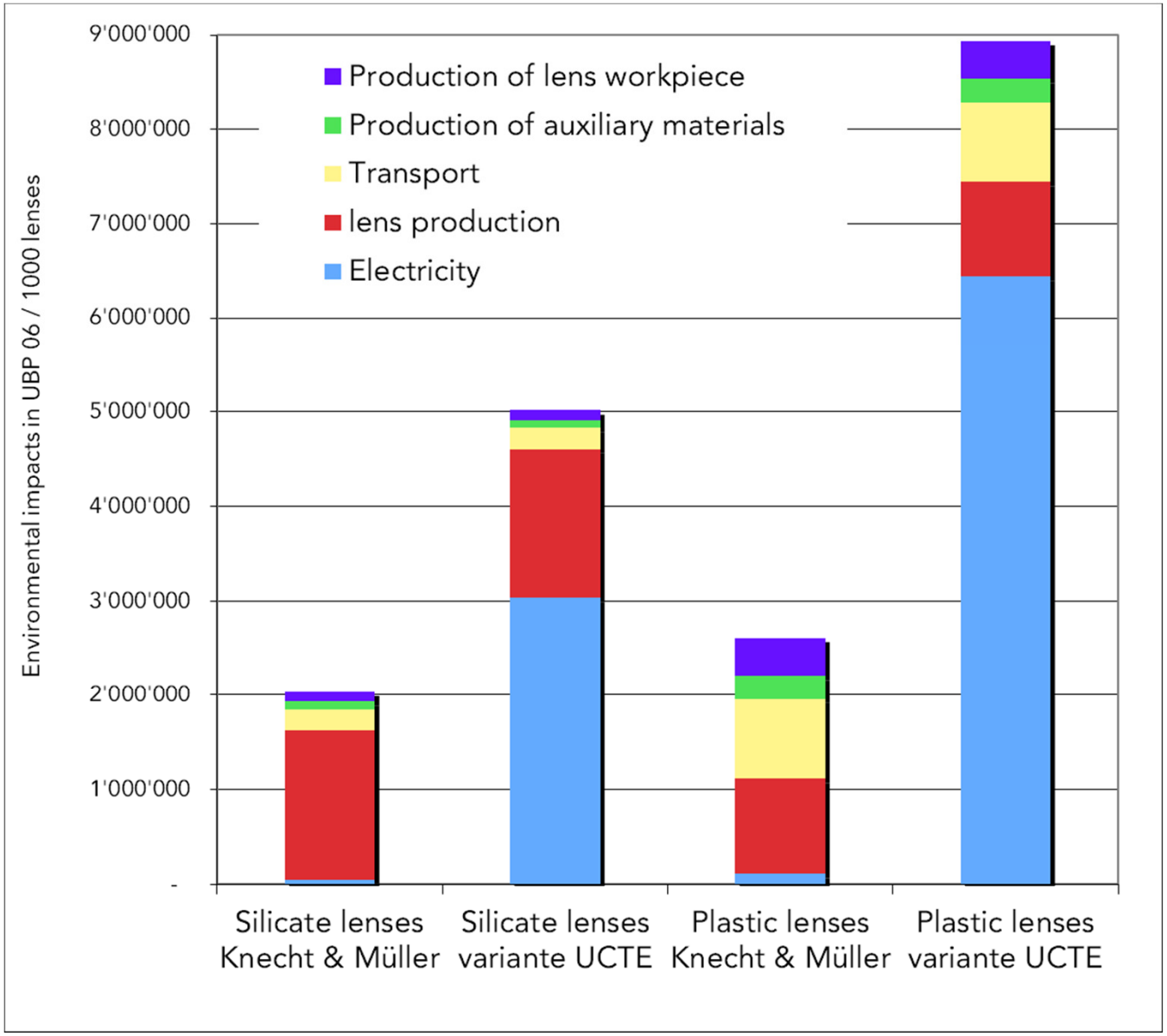
For the environmental dimension they use since about 20 years the method of LCA.
To evaluate the environmental impacts as a base for improvements and so for management decisions they use also single score methods like the ecological scarcity.

Scope of the following analyses:

Functional unit: 1000 lenses

System boundary: cradle to gate

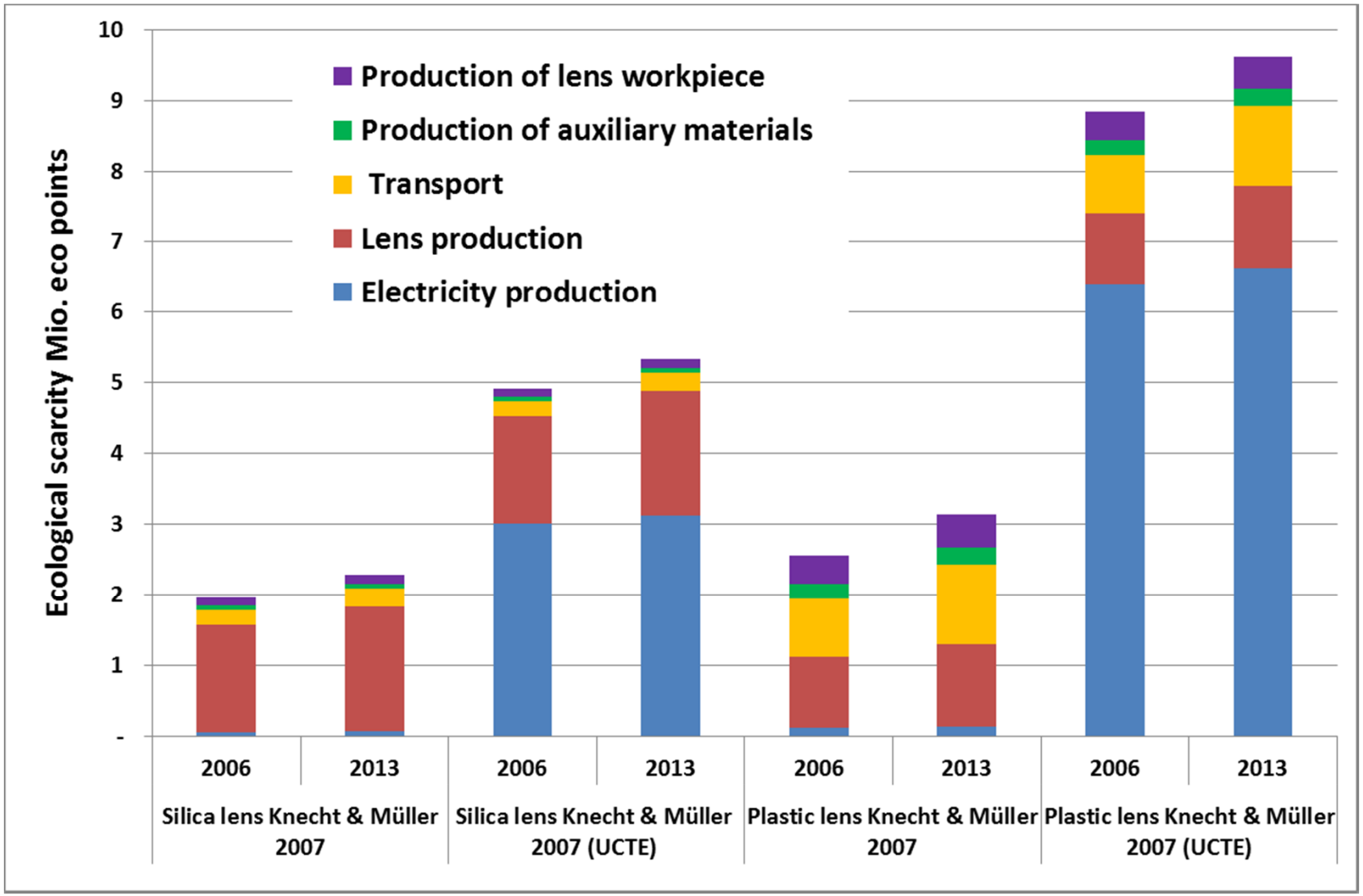
1000 lenses in the year 2007 using UBP 06



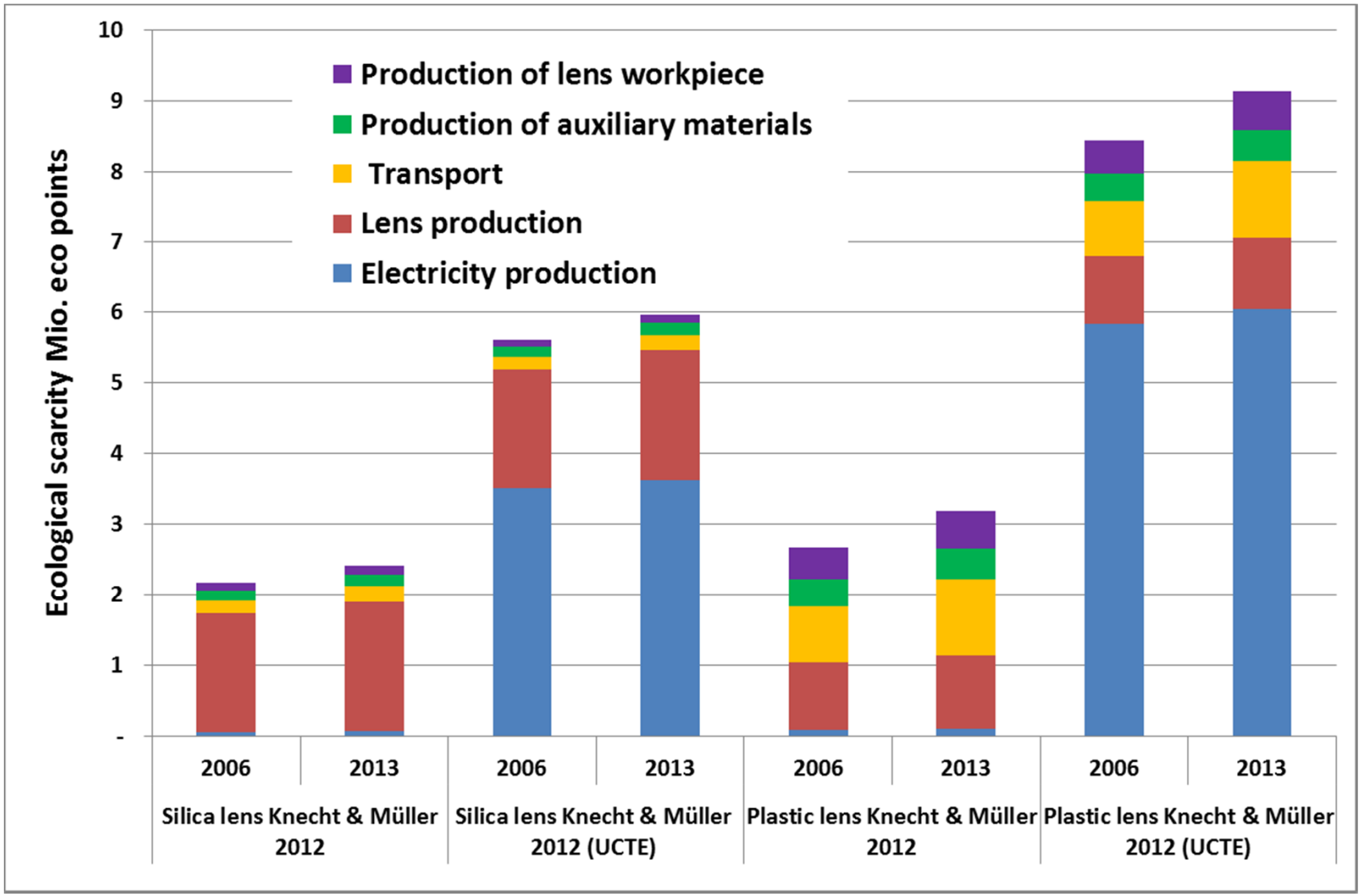
Ecological decisions from this and previous LCA:

- Using only electricity from hydro and PV
- Using heat from wood instead of natural gas

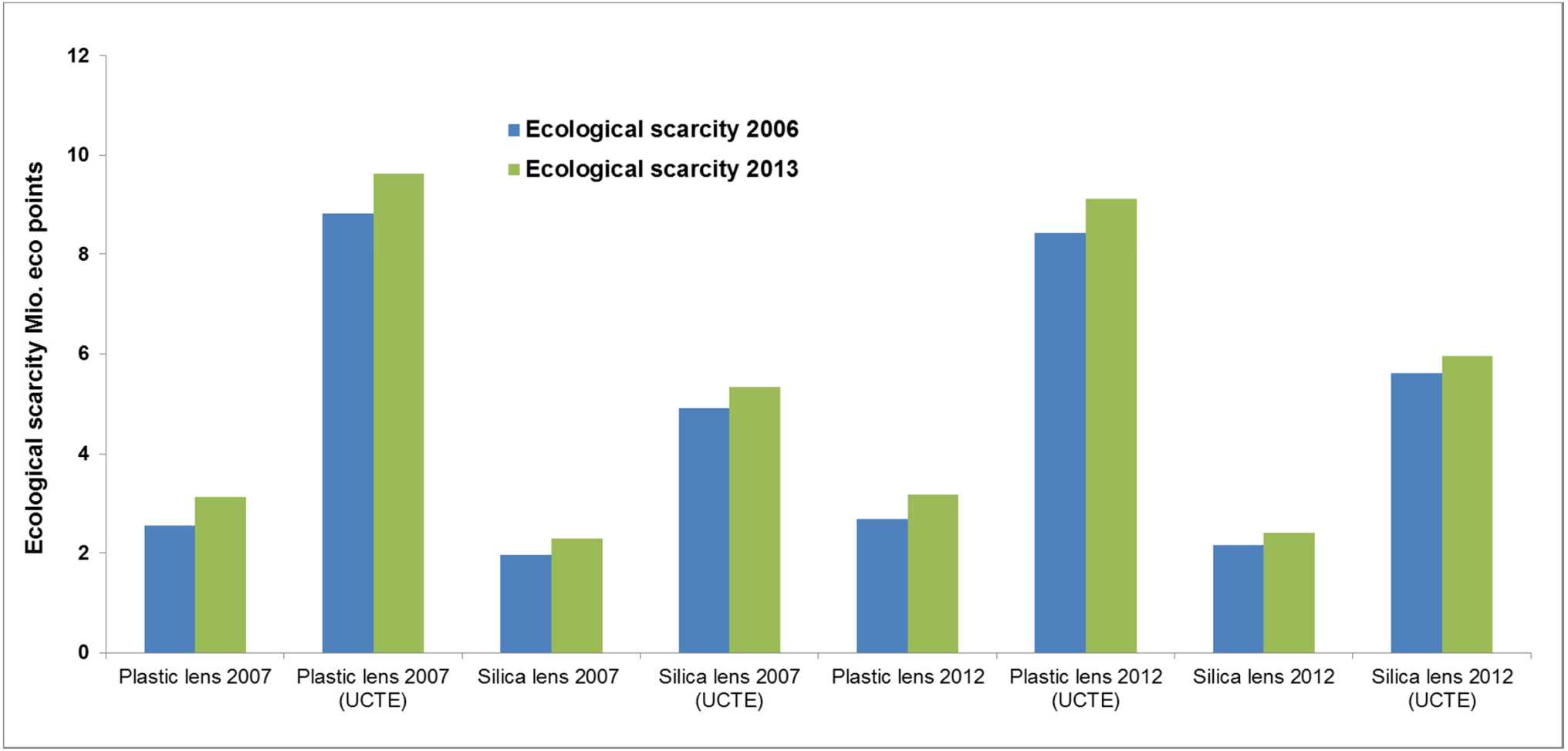
UBP 2006 and 2013
mineral lenses and organic lenses: 2007



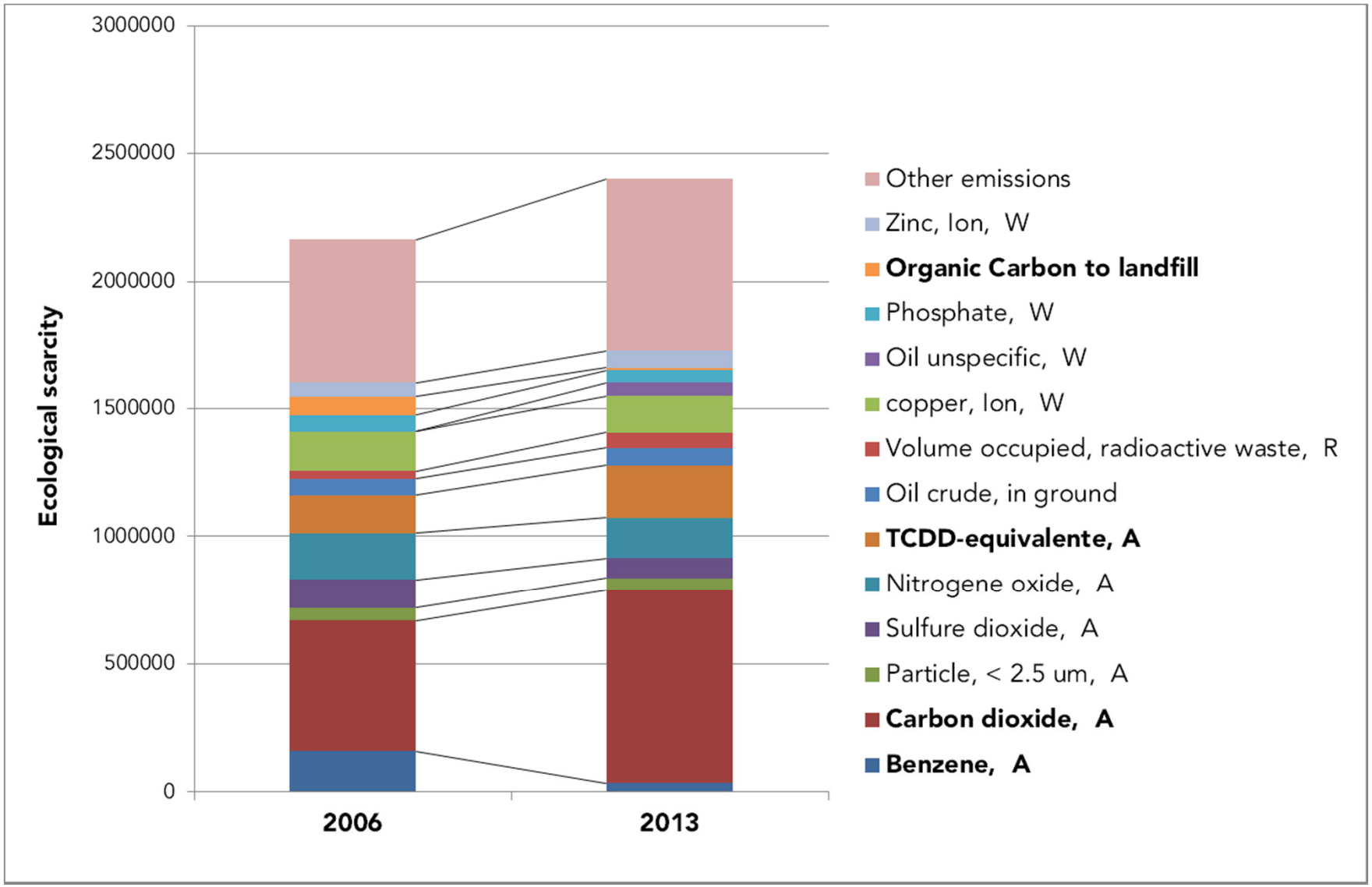
UBP 2006 and 2013
mineral lenses and organic lenses: 2012



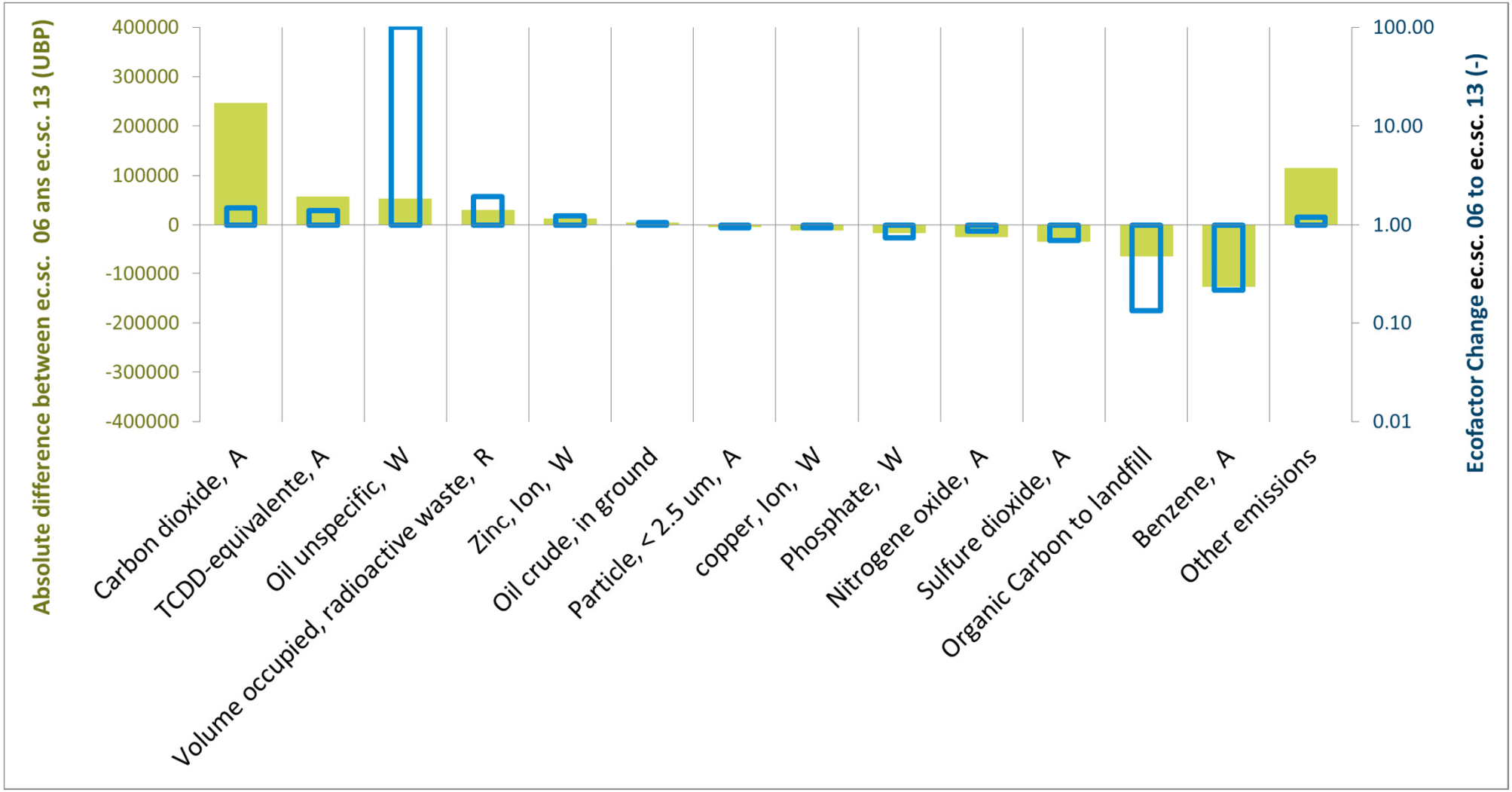
1000 lenses produced by Knecht & Müller in the years 2007 and 2012



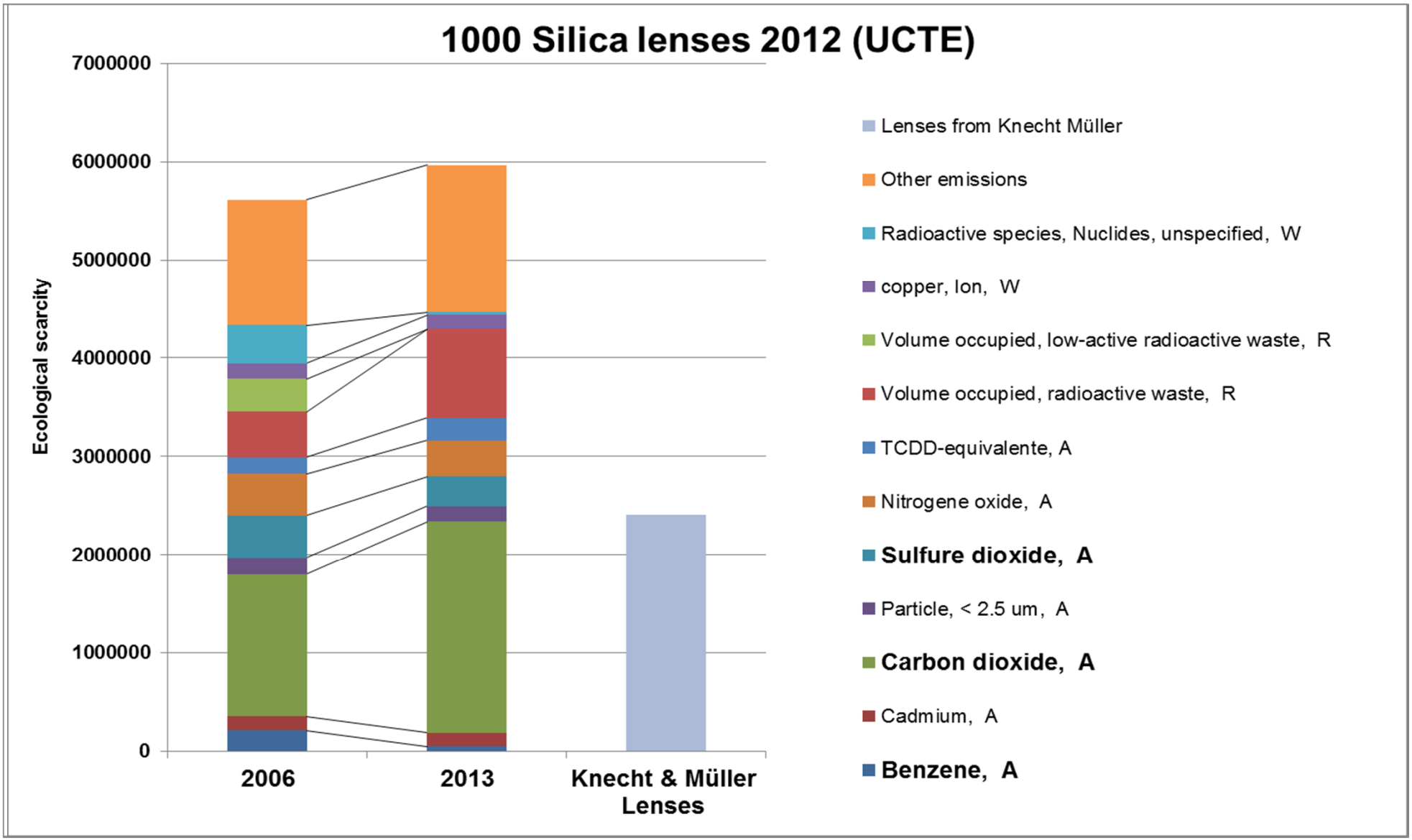
1000 silica lenses 2012



1000 silica lenses 2012
Changes of the relevant influences



1000 silica lenses 2012 (UCTE)



1000 silica lenses 2012 (UCTE)
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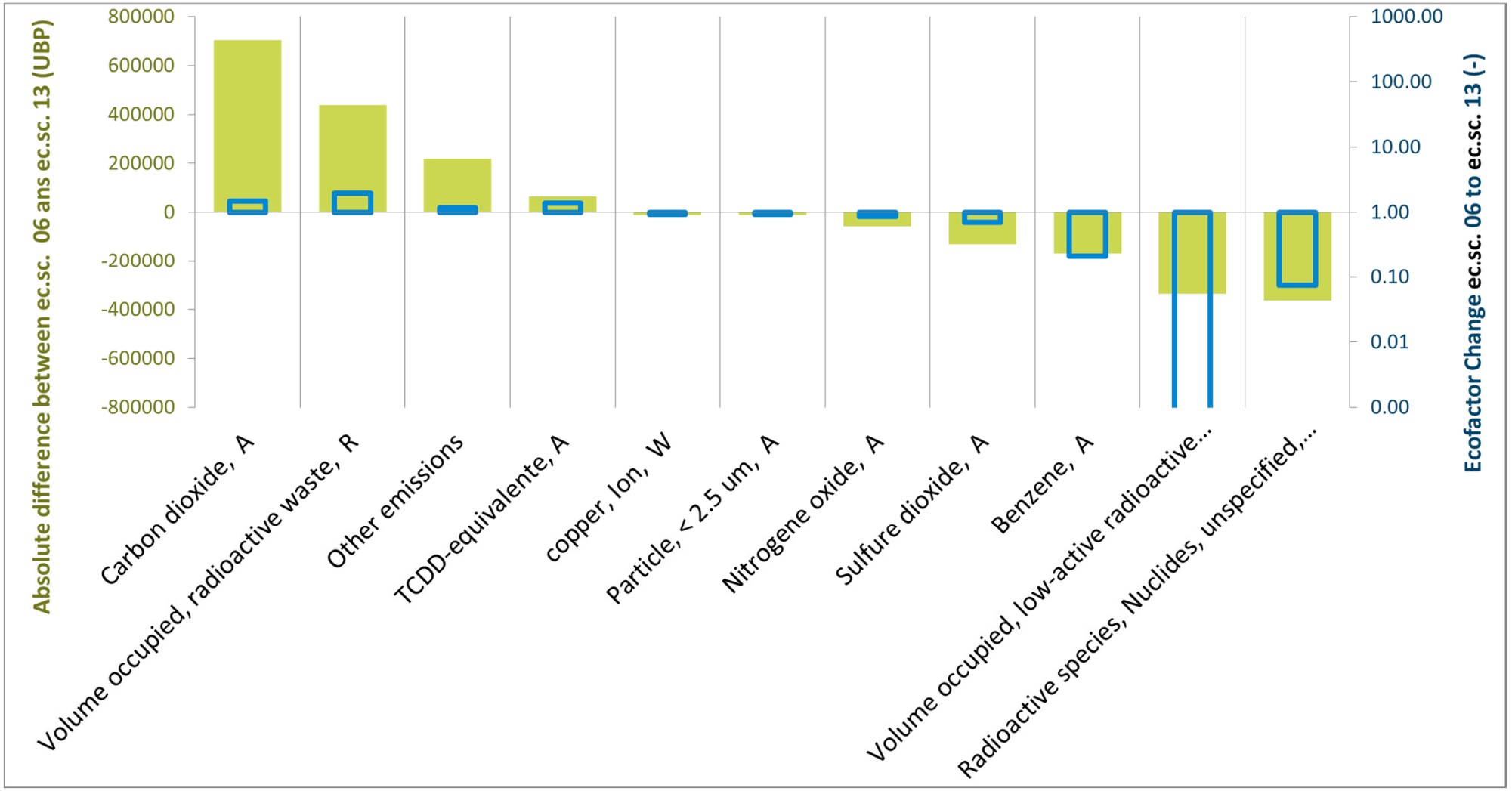
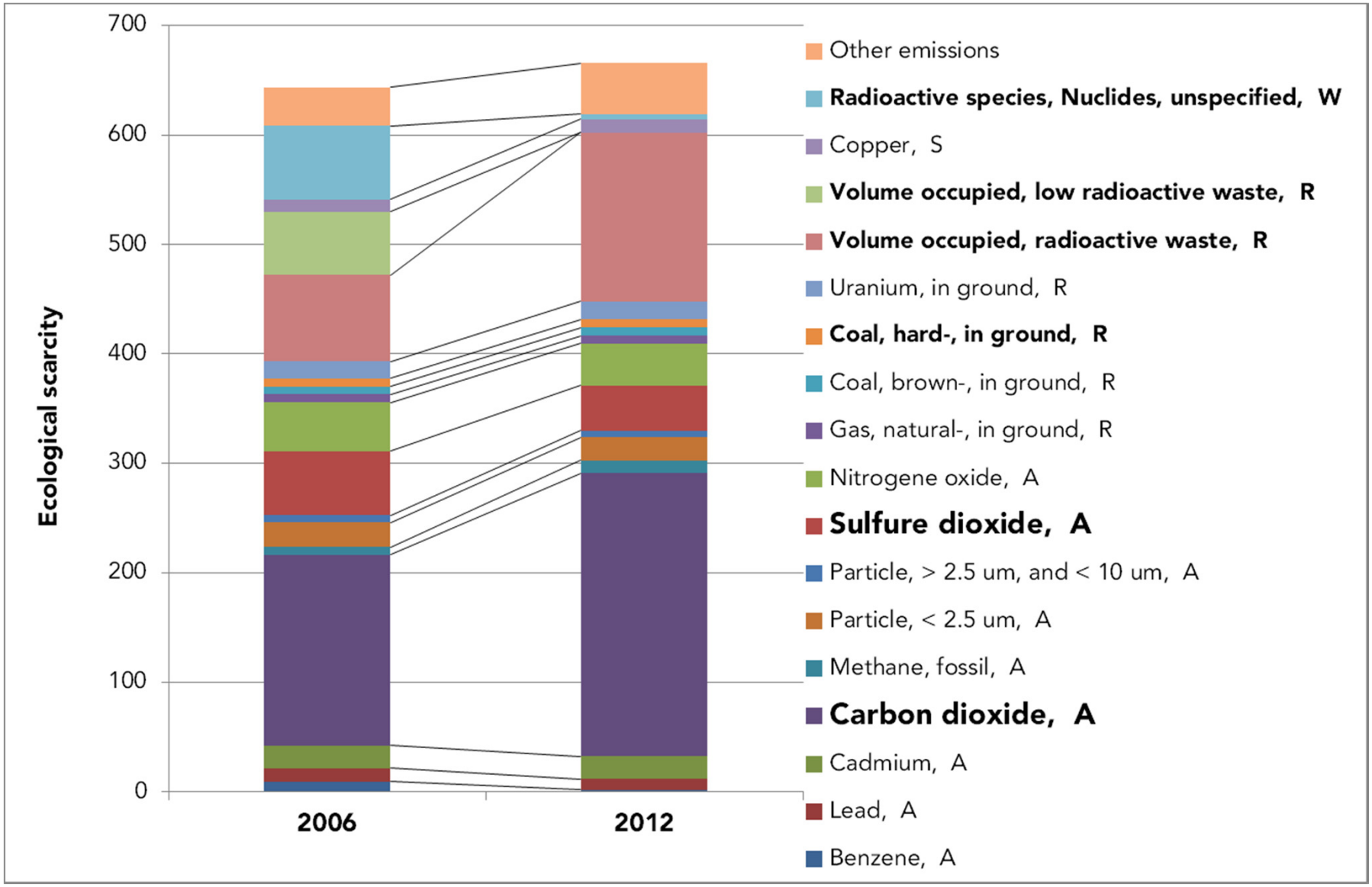
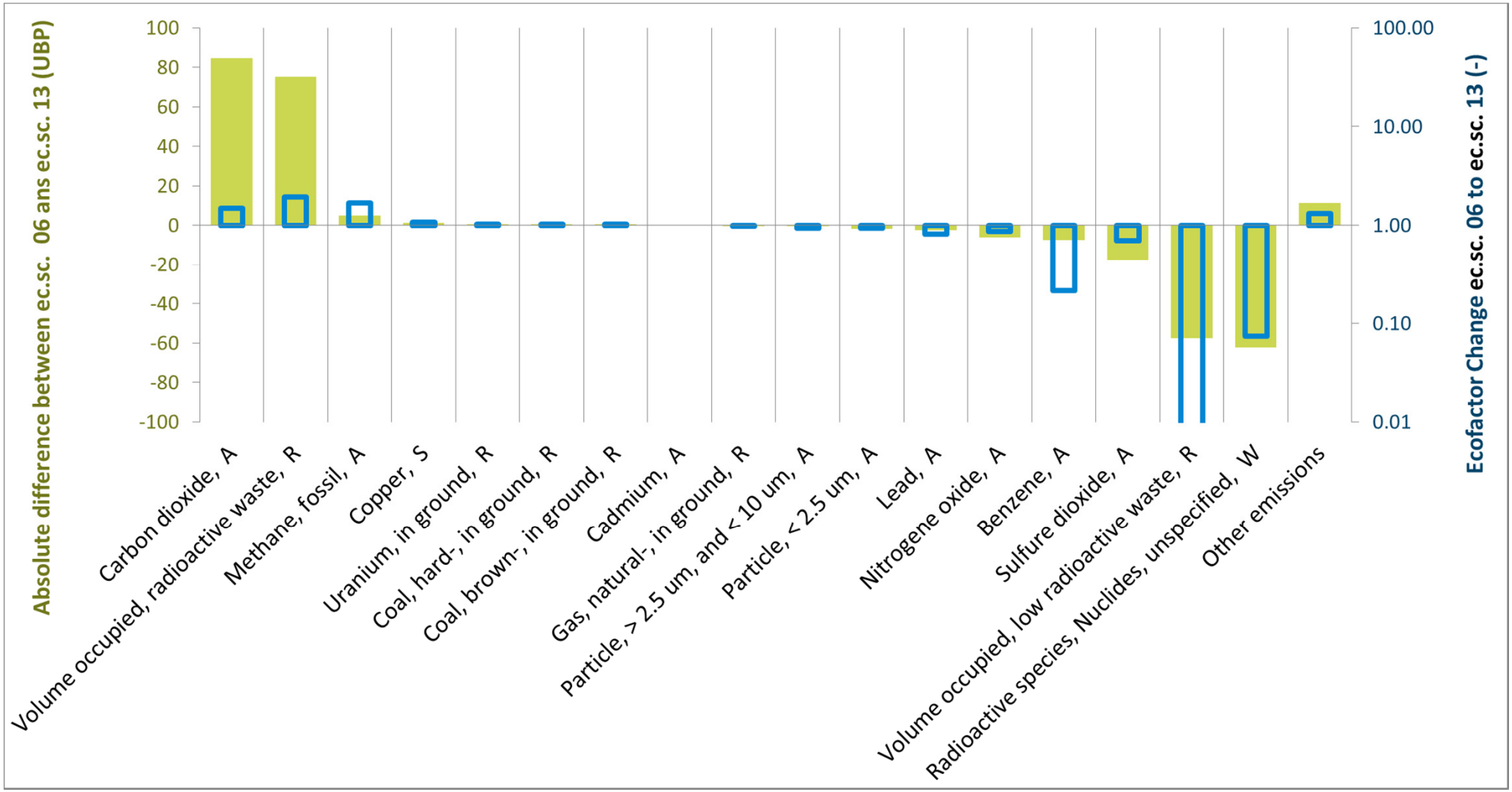


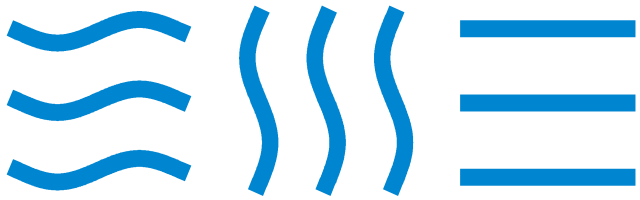
1 kWh of electricity (UCTE)



1 kWh of electricity UCTE
Changes of the relevant influences



Conclusions

- The changes in the overall results for the products studied in this LCA due to updated method are small.
- They will not lead to different conclusions.
- Even if there are quit high differences for specific emissions like
  - Carbon dioxide and other gases leading to climate change
  - Sulphur dioxide
  - Benzenes
  - Organic carbon to landfill
- Or new factors have been added like for
  - Oil unspecific in water
- The changes in the factors for radioactive wastes does not affect the results

Thank you
for your attention!